

Remarks/Arguments

35 U.S.C. § 102(b)

Claims 21, 2, 3, 7-13 and 19-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by DE 2643769 (hereinafter DE '769).

The device disclosed in DE '769 has a shaft 1 with a bush 2, and a pressure medium pipe 5 extends through an annular chamber 14 between two circularly arranged sealing lips 6 and 7 that are connected with webs 15. The sealing edges 8 of the sealing lips 6, 7 abut the bush 2 and run at an incline towards the fluid to be sealed. The sealing lips 6, 7, form between them an "*annular gap 10*" or a "*ring nozzle 11*." (see paragraph 12 of DE '769). The sealing lips 6, 7 have sealing edges that "abut against the bush 2." (see paragraph 11 of DE '769).

Applicants point out that DE '769 specifically discloses structure for a gap 10 or nozzle 11 formed by the sealing lips 6, 7. A nozzle is an aperture or opening. In addition, drawing FIG. 1 clearly has drawing errors. First, the specification indicates that the sealing lips 6, 7, abut the bush 2, but in FIG. 1 they are clearly shown spaced from the bush 2. Furthermore, FIG. 1 is supposed to be a diametrical section of an annular structure, but none of the detail behind the plane of the section is shown in FIG. 1. Thus, the draftsman showed a solid line extending between sealing lips 6 and 7 as if the feature were a pipe rather than an annular passage. Indeed, the solid line is uneven and could have been drawn after the figure had first been drawn without it. Applicants submit that the sealing lips 6 and 7 should have been drawn separated from one another. Had FIG. 1 been properly drawn, it could not have anticipated the claims pending in this application. It is clear from FIGS. 2 and 3 that the corresponding ends of seals 9, 12 and 13 are separated. Thus, Applicants' claimed invention ought not have been rejected because of improperly drawn drawing figures.

In addition, the Examiner indicated that "DE '796 discloses a lip seal having a sealing lip (7) and a shield (6) . . ." (Office Action dated August 1, 2006, page 2, line

15). The Examiner then indicated on page 3, lines 18-21, of the Office Action the following:

“The sealing lip (7) having a first side (first side having a spring on that side) and a second side (opposite the first side), the lip seal having a shield (shield 6) coextensive with the sealing lip except for the lip end on the first side (this is the case since the lip end is under the shield) thereof to protect the sealing lip and to define a space with the lip.”

The Examiner has thus concluded that sealing lip (7) and the shield (6) are not coextensive because part 6 (the shield) is longer than part 7 (the sealing lip). Applicants point out that this is the opposite of the arrangement of the shown in FIG. 1 of Applicants’ application. Currently amended independent claim 21 has been amended to reflect this and now recites, in part, the following:

“the lip seal having a radially extending shield . . . the shield terminating radially short of the lip end . . .”

Thus, because DE ‘769 does not disclose this claimed structure it cannot anticipate currently amended independent claim 21. Accordingly, Applicants respectfully request that the rejection of currently amended independent claim 1 be withdrawn, and that currently amended claim 21 and claims 2, 3, and 7-13 that depend therefrom be allowed.

Currently amended independent claim 19 has been amended to recite, in part, the following:

“providing a radially extending shield covering the sealing lip . . . the shield terminating radially short of the lip end . . .”

DE ‘769 does not disclose the claimed act of providing a radially extending shield covering the sealing lip and terminating radially short of the lip end. Accordingly, Applicants respectfully request that the rejection of currently amended independent claim 19 be withdrawn, and that currently amended claim 19 and claim 20 that depends therefrom be allowed.

35 U.S.C. §103(a)

Dependent claim 6 was rejected under 35 USC §103(a) as being unpatentable over DE '769. The Examiner indicates that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the lip seal to be made of reinforced elastomer." (page 4 of the Office Action dated August 1, 2006, lines 19-20). The Examiner further indicated that "to use an elastomer that is reinforced is well known to one skilled in the art to provide a sealing lip that is more durable or stronger." (page 4 of the Office Action dated August 1, 2006, lines 23-24).

Applicants respectfully disagree. The environment in DE '769 is sea water. A person skilled in the art would not consider sea water to be abrasive. Although sea water may lack lubricating qualities, in the environment of the stern-tube bearing sea water does not contain significant suspended particles of sand or other solid material. The stern-tube is typically some distance above the keel of the ship. The ship will only operate with a minimum of some meters of water beneath its keel. Any sand would be confined to water and much nearer the sea bed. Thus, a person skilled in the art would not consider sea water to be an abrasive and would not have used reinforced elastomer. Accordingly, dependent claim 6 is not obvious over DE '769.

In addition, in order for a claim to be rendered obvious the cited reference must disclose all the claim elements. Dependent claim 6 depends from dependent claim 3 which depends from currently amended independent claim 21 which, as discussed above, now recites, in part, "*the shield terminating radially short of the lip end.*" Thus, dependent claim 6 includes structure not disclosed in DE '769. Accordingly, this is another reason dependent claim 6 is not obvious over DE '769.

Accordingly, Applicants respectfully request that the obviousness based rejection of dependent claim 6 be withdrawn, and the dependent claim 6 be allowed.

New dependent claims 22-24 are added to claim additional patentably distinct features of the invention. These claims are believed to be allowable as they depend from one of currently amended independent claims 21 or 19, which for the reasons set forth

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above are believed to be allowable. Accordingly, Applicants respectfully request that claims 22-24 be allowed.

If the Examiner has any questions or concerns the Examiner is invited to contact the Applicants attorney.

Respectfully submitted,

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